

=====

Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866) 217-9197 (toll free).

Reviewer: Anne Corrigan

Timestamp: [year=2011; month=11; day=9; hr=12; min=28; sec=1; ms=317;]

=====

Application No: 09892613 Version No: 7.0

Input Set:

Output Set:

Started: 2011-11-02 15:16:04.463
Finished: 2011-11-02 15:16:07.274
Elapsed: 0 hr(s) 0 min(s) 2 sec(s) 811 ms
Total Warnings: 42
Total Errors: 0
No. of SeqIDs Defined: 71
Actual SeqID Count: 71

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (1)
W 402	Undefined organism found in <213> in SEQ ID (2)
W 213	Artificial or Unknown found in <213> in SEQ ID (3)
W 213	Artificial or Unknown found in <213> in SEQ ID (4)
W 213	Artificial or Unknown found in <213> in SEQ ID (5)
W 213	Artificial or Unknown found in <213> in SEQ ID (6)
W 213	Artificial or Unknown found in <213> in SEQ ID (7)
W 213	Artificial or Unknown found in <213> in SEQ ID (8)
W 213	Artificial or Unknown found in <213> in SEQ ID (9)
W 402	Undefined organism found in <213> in SEQ ID (10)
W 213	Artificial or Unknown found in <213> in SEQ ID (11)
W 213	Artificial or Unknown found in <213> in SEQ ID (12)
W 213	Artificial or Unknown found in <213> in SEQ ID (13)
W 213	Artificial or Unknown found in <213> in SEQ ID (14)
W 213	Artificial or Unknown found in <213> in SEQ ID (15)
W 213	Artificial or Unknown found in <213> in SEQ ID (16)
W 213	Artificial or Unknown found in <213> in SEQ ID (17)
W 402	Undefined organism found in <213> in SEQ ID (18)
W 213	Artificial or Unknown found in <213> in SEQ ID (19)
W 213	Artificial or Unknown found in <213> in SEQ ID (20)

Input Set:

Output Set:

Started: 2011-11-02 15:16:04.463
Finished: 2011-11-02 15:16:07.274
Elapsed: 0 hr(s) 0 min(s) 2 sec(s) 811 ms
Total Warnings: 42
Total Errors: 0
No. of SeqIDs Defined: 71
Actual SeqID Count: 71

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (21)
W 213	Artificial or Unknown found in <213> in SEQ ID (22)
W 213	Artificial or Unknown found in <213> in SEQ ID (23) This error has occurred more than 20 times, will not be displayed
W 402	Undefined organism found in <213> in SEQ ID (26)
W 402	Undefined organism found in <213> in SEQ ID (33)
W 402	Undefined organism found in <213> in SEQ ID (34)
W 402	Undefined organism found in <213> in SEQ ID (49)
W 402	Undefined organism found in <213> in SEQ ID (50)

SEQUENCE LISTING

<110> LEUNG, SHAWN SHUI-ON

<120> REDUCING IMMUNOGENICITIES OF IMMUNOGLOBULINS BY
FRAMEWORK-PATCHING

<130> SBL-001US

<140> 09892613

<141> 2001-06-27

<160> 71

<170> PatentIn version 3.3

<210> 1

<211> 369

<212> DNA

<213> Artificial Sequence

<220>

<223> FR-patched heavy chain variable region sequence (Full DNA
Sequence) formed by joining the N- and C- terminal (SEQ 3 and 6)
halves at the KpnI site.

<220>

<221> V_region

<222> (1)..(369)

<400> 1

gaagtgcagc tgctggagtc tgggggaggc tttagtgcagc ctggagggtc cctgaggctc 60

tcctgtgcag cctctggatt ctccttcagt atctatgaca tgtcttggt tcgccaggca 120

ccggaaagg ggctggagtg ggtcgcatac attagtagtg gtgggtgtac cacctactat 180

ccagacactg tgaaggggccg attcaccatc tccagagaca atgccaagaa ctccctgtac 240

ctgcaaatga acagtctgag ggtggaggac acagccttat attactgtgc aagacatagt 300

ggctacggta gtagctacgg ggtttgttt gcttactggg gccaaaggac tctggtca 360

gtctcttca 369

<210> 2

<211> 123

<212> PRT

<213> Chimaera sp.

<400> 2

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Ile Tyr
20 25 30

Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Tyr Ile Ser Ser Gly Gly Thr Thr Tyr Tyr Pro Asp Thr Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Val Glu Asp Thr Ala Leu Tyr Tyr Cys
85 90 95

Ala Arg His Ser Gly Tyr Gly Ser Ser Tyr Gly Val Leu Phe Ala Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 3

<211> 111

<212> DNA

<213> Artificial Sequence

<220>

<223> N-template is a synthetic sense-strand oligonucleotide encoding
amino acids 14-50 of the VH region (SEQ ID No. 2). The template
is PCR-amplified by two primers (SEQ ID No. 4 and 5)

<220>

<221> V_region

<222> (1)..(111)

<400> 3

cctggagggt ccctgaggct ctccctgtgca gcctctggat tctccttcag tatctatgac 60

atgtcttggg ttgcgcaggc accgggaaag gggctggagt gggtcgcata c 111

<210> 4

<211> 57

<212> DNA

<213> Artificial Sequence

<220>

<223> 5' Primer is a synthetic sense-strand oligonucleotide encoding

amino acid 1-19 of the VH region (SEQ ID No. 2). The 3' end of the primer overlaps with the 5'end of the template by 18 nucleotides.

<220>
<221> primer_bind
<222> (1)..(57)

<400> 4
gaagtgcagc tgctggagtc tgggggaggc ttatgcagc ctggagggtc cctgagg 57

<210> 5
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> 3' Primer is a synthetic anti-sense-strand oligonucleotide encoding amino acid 43-59 of the VH region (SEQ ID No. 2). The primer overlaps with the template by 21 nucleotides.

<220>
<221> primer_bind
<222> (1)..(48)

<400> 5
gttagtgttta ccaccaccac tactaatgtt tgcgaccac tccagccc 48

<210> 6
<211> 132
<212> DNA
<213> Artificial Sequence

<220>
<223> C-terminal is a synthetic sense-strand oligonucleotide encoding amino acid 68-111 of the VH region (SEQ ID No 2) The template is PCR-amplified by two primers (SEQ ID No 7 and 8)

<220>
<221> V_region
<222> (1)..(132)

<400> 6
ttcacatct ccagagacaa tgccaagaac tccctgtacc tgcaaatgaa cagtctgagg 60

gtggaggaca cagcctata ttactgtgca agacatagt gctacggtag tagctacggg 120

gttttgtttt ct 132

<210> 7
<211> 60

<212> DNA
<213> Artificial Sequence

<220>

<223> 5' Primer is a synthetic sense-strand oligonucleotide encoding amino acid 55-74 of the VH region (SEQ ID No 2). The 3' end of the primer overlaps with the 5'end of the template by 21 nucleotides.

<220>

<221> primer_bind
<222> (1)..(60)

<400> 7

ggtgttacca cctactatcc agacactgtg aagggccgat tcaccatctc cagagacaat 60

<210> 8

<211> 57

<212> DNA
<213> Artificial Sequence

<220>

<223> 3' Primer is a synthetic anti-sense-strand oligonucleotide encoding amino acid 105-123 of the VH region (SEQ ID No 2). The primer and the template overlaps by 21 nucleotides.

<220>

<221> primer_bind
<222> (1)..(57)

<400> 8

tgaagagaca gtgaccagag tcccttgcc ccagtaagca aacaaaaccc cgtagct 57

<210> 9

<211> 321

<212> DNA
<213> Artificial Sequence

<220>

<223> FR-patched light chain variable region sequence formed by joining the N- and C- terminal (SEQ 11 and 14) halves at the KpeI site.

<220>

<221> V_region
<222> (1)..(321)

<400> 9

gatatccaga tgaccaggc tccatcctcc ctgtctgcct ctgtgggaga cagagtacc 60

attagttgca gggcaagtca ggacattagc aattatcaa actggtatca gcagaaacca 120

ggtaaggctc cgaaactcct gatctactac actagtatata tacactcagg agtccccatca 180

aggttcagtgcagttggc ttggaaacagaa tttactctca ccattagctc cctgcagcca 240
gaagattttgcacttacttttgccatggcaacag ggttaatacgcttccgtggac gttcggtgga 300
ggcaccaagg tgaaaatcaa a 321

<210> 10
<211> 107
<212> PRT
<213> Chimaera sp.

<400> 10
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Gln Asp Ile Ser Asn Tyr
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Tyr Thr Ser Ile Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Gly Asn Thr Leu Pro Trp
85 90 95

Thr Phe Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 11
<211> 108
<212> DNA
<213> Artificial Sequence

<220>
<223> N-template is a synthetic sense-strand oligonucleotide encoding
amino acid 11-46 of the VL region (SEQ ID No. 10). The template
is PCR-amplified by two primers (SEQ ID No. 12 and 13)

<220>
<221> V_region
<222> (1)..(108)

<400> 11
ctgtctgcct ctgtggaga cagagtacc attagttgca gggcaagtca ggacattagc 60
aattatcaa actggtatca gcagaaacca ggttaaggctc cgaaaactc 108

<210> 12
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<223> 5' Primer is a synthetic sense-strand oligonucleotide encoding amino acid 1-17 of the VH region (SEQ ID No 10). The 3' end of the primer overlaps with the 5'end of the template by 21 nucleotides.

<220>
<221> primer_bind
<222> (1)..(51)

<400> 12
gatatccaga tgaccagtc tccatcctcc ctgtctgcct ctgtggaga c 51

<210> 13
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> 3' Primer is a synthetic anti-sense-strand oligonucleotide encoding amino acid 40-53. The primer and the template overlaps by 18 nucleotides.

<220>
<221> primer_bind
<222> (1)..(40)

<400> 13
atatactagt gtagtagatc aggagttcg gagccttacc 40

<210> 14
<211> 120
<212> DNA
<213> Artificial Sequence

<220>
<223> C-terminal is a synthetic sense-strand oligonucleotide encoding amino acid 59-98 of the VH region (SEQ ID No 10) The template is PCR-amplified by tow primers (SEQ ID No 15 and 16)

<220>

<221> V_region
<222> (1)..(120)

<400> 14
ccatcaagg t c a g t g g c a g t g g t c t g g a a c a g a a t t a c t c a c c a t t a g c t c c c t g 60
c a g c c a g a a g a t t t g c c a c a g g g t a a t a c g c t t c c g t g g a c g t t c 120

<210> 15
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> 5' Primer is a synthetic sense-strand oligonucleotide encoding amino acid 50-65 of the VH region (SEQ ID No. 10). The 3' end of the primer overlaps with the 5'end of the template by 21 nucleotides

<220>
<221> primer_bind
<222> (1)..(49)

<400> 15
c t a c a c t a g t a t t a c a c t c a g g a g t c c a t c a a g g t t c a g t g g c a g t 49

<210> 16
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> 3' Primer is a synthetic anti-sense-strand oligonucleotide encoding amino acid 92-107 of the VH region (SEQ ID No 10). The primer and the template overlaps by 21 nucleotides.

<220>
<221> primer_bind
<222> (1)..(48)

<400> 16
t t t g a t t c c a c t t g g t g c c t c c a c c g a a c g t c c a c g g a a g c g t a t t 48

<210> 17
<211> 371
<212> DNA
<213> Artificial Sequence

<220>
<223> FR-patched heavy chain variable region sequence (Full DNA Sequence) formed by joining the N- and C- terminal (SEQ 19 and 22) halves at the KpnI site.

<220>
<221> V_region
<222> (1)..(371)

<400> 17
caggtgcaac tggtggttc cggggctgag gtaaataaagc ctggggcctc agtgaaggc 60
tcctgcaagg cttctggcta cacatttacc agttacaata tgcaactgggt acggcagcct 120
cctggaagg gcctggaatg gattggagct atttatccag gaaatggtga tactagttac 180
aatcagaat tcaaggcCAA ggccacattg actgcagaca aatcctccag cacagcctac 240
atgcagctca gcagtctgac atctgaggac tctgcggctt attactgtgc aagatcgac 300
tacggtagta actacgtaga ctactttgac tactggggcc aaggcaccac tgttacagtc 360
tcctctgatc a 371

<210> 18
<211> 123
<212> PRT
<213> Chimaera sp.

<400> 18
Gln Val Gln Leu Val Ala Ser Gly Ala Glu Val Asn Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

Asn Met His Trp Val Arg Gln Pro Pro Gly Arg Gly Leu Glu Trp Ile
35 40 45

Gly Ala Ile Tyr Pro Gly Asn Gly Asp Thr Ser Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser His Tyr Gly Ser Asn Tyr Val Asp Tyr Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Thr Val Thr Val Ser Ser Asp

115

120

<210> 19
<211> 114
<212> DNA
<213> Artificial Sequence

<220>
<223> N-template is a synthetic sense-strand oligonucleotide encoding amino acid 12-49 of the VH region (SEQ ID No. 18). The template is PCR-amplified by two primers (SEQ ID No. 20 and 21)

<220>
<221> V_region
<222> (1)..(114)

<400> 19
aataaggcctg gggcctcagt gaaggtctcc tgcaaggcctt ctggctacac atttaccagt 60

tacaatatgc actgggtacg gcagcctcctt ggaaggggcc tggaatggat tggaa 114

<210> 20
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> 5' Primer is a synthetic sense-strand oligonucleotide encoding amino acid 1-19 of the VH region (SEQ ID No 18). The 3' end of the primer overlaps with the 5'end of the template by 24 nucleotides.

<220>
<221> primer_bind
<222> (1)..(57)

<400> 20
caggtgcaac tggtggttc cggggctgag gtaaataagc ctggggcctc agtgaag 57

<210> 21
<211> 55
<212> DNA
<213> Artificial Sequence

<220>
<223> 3' Primer is a synthetic anti-sense-strand oligonucleotide encoding amino acid 43-60 of the VH region (SEQ ID No 18). The primer and the template overlaps by 21 nucleotides.

<220>
<221> primer_bind

<222> (1)..(55)

<400> 21

tgttaactagt atcaccattt cctggataaa tagctccaat ccattccagg cccct 55

<210> 22

<211> 126

<212> DNA

<213> Artificial Sequence

<220>

<223> C-terminal is a synthetic sense-strand oligonucleotide encoding amino acid 70-111 of the VH region (SEQ ID No 18). The template is PCR-amplified by tow primers (SEQ ID No 23 and 24)

<220>

<221> V_region

<222> (1)..(126)

<400> 22

ttgactgcag acaaatcctc cagcacagcc tacatgcagc tcagcagtct gacatctgag 60

gactctgcgg tctattactg tgcaagatcg cactacggta gtaactacgt agactacttt 120

gactac 126

<210> 23

<211> 61

<212> DNA

<213> Artificial Sequence

<220>

<223> 5' Primer is a synthetic sense-strand oligonucleotide encoding amino acid 57-76 of the VH region (SEQ ID No 18). The 3' end of the primer overlaps with the 5'end of the template by 21 nucleotides.

<220>

<221> primer_bind

<222> (1)..(61)

<400> 23

tgtatactagt tacaatcaga aattcaaggg caaggccaca ttgactgcag acaaatcctc 60

c 61

<210> 24

<211> 59

<212> DNA

<213> Artificial Sequence

<220>

<223> 3' Primer is a synthetic anti-sense-strand oligonucleotide encoding amino acid 105-123 of the VH region (SEQ ID No 18). The primer and the template overlaps by 21 nucleotides.

<220>
<221> primer_bind
<222> (1)..(59)

<400> 24
tgatcagagg agactgtaac agtgggtgcct tggcccccagt agtcaaagta gtctacgta 59

<210> 25
<211> 321
<212> DNA
<213> Artificial Sequence

<220>
<223> FR-patched light chain variable region sequence (Full DNA Sequence) formed by joining the N- and C-terminal (SEQ 27 and 30) halves at the BspEI site.

<220>
<221> V_region
<222> (1)..(321)

<400> 25
gatattcaac tcacacagtc tccatcaagt ctttctgcat ctgtggggga cagagtaca 60

attacttgca gggccagctc aagtttaagt ttcatgcaact ggtaccagca gaagccagga 120

tccctccccca aaccctggat ttatgccaca tccaacctgg cttccggagt ccctagtcgc 180

ttcagtggca gtgggtctgg gaccgagttc actctcacaa tcagcagttt gcagcctgaa 240

gatttcgcca cttatttctg ccatcagtgg agtagtaacc cgctcacgtt cggtgctgg 300

accaagctga ccgttctacg g 321

<210> 26
<211> 107
<212> PRT
<213> Chimaera sp.

<400> 26
Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Leu Ser Phe Met
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Ser Ser Pro Lys Pro Trp Ile Tyr

35

40

45

Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Phe Cys His Gln Trp Ser Ser Asn Pro Leu Thr
85 90 95

Phe Gly Ala Gly Thr Lys Leu Thr Val Leu Arg
100 105

<210> 27
<211> 129
<212> DNA
<213> Artificial Sequence

<220>
<223> N-template is a synthetic sense-strand oligonucleotide encoding
amino acids 9-51 of the VL region (SEQ ID No. 26). The template
is PCR-amplified by two primers (SEQ ID No. 28 and 29)

<220>
<221> V_region
<222> (1)..(129)

<400> 27
tcaagtcttt ctgcatctgt gggggacaga gtcacaatta cttgcagggc cagctcaagt 60

ttaagttca tgcactggta ccagcagaag ccaggatcct ccccaaacc ctggattat 120

gccacatcc 129

<210> 28
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> 5' Primer is a synthetic sense-strand oligonucleotide encoding
amino acid 1-15 of the VH region (SEQ ID No 26). The 3' end of
the primer overlaps with the 5'end of the template by 21
nucleotides.

<220>
<221> primer_bind
<222> (1)..(45)

<400> 28
gatattcaac tcacacagtc tccatcaagt ctttctgcat ctgtg 45

<210> 29
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> 3' Primer is a synthetic anti-sense-strand oligonucleotide encoding amino acid 45-57. The primer and the template overlaps by 21 nucleotides.

<220>
<221> primer_bind
<222> (1)..(40)

<400> 29
ggactccgga agccaggttg gatgtggcat aaatccagg 40

<210> 30
<211> 120
<212> DNA
<213> Artificial Sequence

<220>
<223> C-terminal is a synthetic sense-strand oligonucleotide encoding amino acid 61-100 of the VH region (SEQ ID No 26) The template is PCR-amplified by tow primers (SEQ ID No 31 and 32)

<220>
<221> V_region
<222> (1)..(120)

<400> 30
ttcagtggca gtgggtctgg gaccgagttc actctcacaa tcagcagttt gcagcctgaa 60
gatttcgcca cttatttctg ccatcagtgg agtagtaacc cgctcacgtt cggtgctgg 120

<210> 31
<211> 43
<212> DNA
<213> Artificial Sequence

<220>
<223> 5' Primer is a synthetic sense-strand oligonucleotide encoding amino acid 54